CLAIMS.

1.- Configurable large-area display system with a display (114) comprising a plurality of sub-displays that each contain an array of pixels (122), characterized in that it further comprises a central controller hardware and software block (110) containing software to control the display system (100) and to generate control data and video signals to be displayed on the display (114); a digitizer (112) that converts said control data and video signals to a digital signal compatible with the display (114); whereby the digitized control data and video signals are passed from one sub-display to the next, and whereby each sub-display is a control unit (116) capable of controlling the individual pixels (122) of said control unit (116) as a function of its position within the display (114) and of the received control data and video signals.

2.- Configurable large-area display system according to claim 1, characterized in that central controller hardware and software block (110) is electrically connected to digitizer (112) via a standard RS-232 connection (111).

3.- Configurable large-area display system according to claim 1, characterized in that the digitizer (112) is connected to the display (114) by means of a fiber link (113).

4.- Configurable large-area display system according to claim 1, characterized in that, in the event that the

distance between two successive control units (116) exceeds a predetermined distance, an intermediate resyncer (118) is used between said two control units (116) to receive and retransmit the control data and video signals.

5.- Configurable large-area display system according to claim 1, characterized in that each control unit (116) further includes an AC-to-DC power supply (210), a resynchronizer unit (212) to receive and transmit data, an EEPROM (224), and a controller (216) driving a plurality of pixel clusters (218) that each includes a plurality of modules (220), each containing an array of light-emitting pixel elements (222).

6.- Configurable large-area display system according to claim 5, characterized in that the EEPROM (224) contains production data and factory light output measurements, as well as color coordinates for each pixel (222) within modules (220).

7.- Configurable large-area display system according to claim 5, characterized in that the controller (216) contains algorithms to parse the control data and video signals received into specific packets associated with the location of a given module (220) within the concerned control unit (116) of display system (100).

8.- Configurable large-area display system according to claim 5, characterized in that the controller (216) is provided with means for managing the pulse width modulation associated with driving pixels (222) of each module (220).

9.- Configurable large-area display system according to claim 5, characterized in that the control unit comprises four pixel clusters (218), each pixel cluster (218) containing 32 modules (220) that are suitably interconnected for a daisy-chain signal distribution.

10.- Configurable large-area display system according to claim 5, characterized in that each module (220) comprises an array of 2 x 2 pixels (222).

11.- Configurable large-area display system according to claim 1, characterized in that the pixels (222) are light-emitting diodes (LED).

12.- Configurable large-area display system according to claim 1, characterized in that the dimensions of the modules (220) are relatively small, such that they can be assembled to form displays having any 2D or 3D shape.

13.- Configurable large-area display system according to claim 1, characterized in that the modules (220) of the display (114) are arranged in a standalone manner so that the display (114) apparently has a transparent structure.

14.- Control unit for use in a configurable large-area display system according to any of the preceding claims, characterized in that it is configured as a sub-display comprising a plurality of pixel clusters (218), each composed of a plurality of pixel modules (220) that are sequentially interconnected with each other and each

containing an array of light-emitting pixel elements (122).

15.- Control unit according to claim 14, characterized in that it further includes an AC-to-DC power supply (210), a resynchronizer unit (212) to receive and transmit control data and video signals; a controller (216) connected to the resynchronizer unit (221) and driving the pixels (222) contained in the modules (220) and clusters (218); and an EEPROM (224) connected to the controller (216).

16.- Control unit according to claim 15, characterized in that the EEPROM (224) contains production data and factory light output measurements, as well as color coordinates for each pixel (222) within modules (220).

17.- Control unit according to claim 15, characterized in that the controller (216) contains algorithms to parse the control data and video signals received into specific packets associated with the location of a given module (220) within the concerned control unit (116) of display system (100).

18.- Control unit according to claim 14, characterized in that the controller (216) is provided with means for managing the pulse width modulation associated with driving pixels (222) of each module (220).

19.- Control unit according to claim 14, characterized in that the pixels (222) are light-emitting diodes (LED).

20.- Method of operating a large-area display system

according to any of the claims 1 to 13, characterized in that said method includes the steps of applying power to the display (114); determining whether the display (114) is to be configured or reconfigured; determining the hardware configuration; setting the desired spacing of the picture elements (222); reading the EEPROM (224) for obtaining stored production data and factory light output measurements, as well as color coordinates for each pixel (222) within modules (220); transmitting and distributing video signals and control date to the display; parsing the video data, and transmitting the video data stream to the pixel clusters (218).

21.- Method of operating according to claim 20, characterized in that, depending on the desired spacing, some intermediate pixels (222), which are spaced apart less further then desired, are ignored for use.